

IN THE CLAIMS:

1. (Currently Amended) A capsule endoscope apparatus comprising:
an illuminating device for irradiating illuminating light in a body cavity;
a switching device which switches illuminating conditions of the illuminating light irradiated by the illuminating device, presets at least two different illuminating conditions and a switching order thereof in a state where the illuminating light has the same wavelength band, the at least two different illuminating conditions being a light-emitting amount or light-emitting time, and automatically switches the illuminating conditions from a first illuminating condition corresponding to a first image acquisition cycle to a second illuminating condition corresponding to a subsequent image acquisition cycle;
an image pick-up device for sequentially picking up, in a state where the illuminating light has the same wavelength band, images of a subject, which is irradiated with illuminating light under the illuminating conditions which are different according to the switching by the switching device; [[and]]
a setting device which sets the light-emitting amount or light-emitting time;
and
a radio device which transmits by radio waves image data obtained by the image pick-up device.

2. (Canceled)

3. (Currently Amended) A capsule endoscope apparatus according to Claim [[2]]1, wherein the setting device is a storing device which stores information for setting the light-emitting amount or light-emitting time.

4. (Original) A capsule endoscope apparatus according to Claim 1, wherein the illuminating device comprises a white LED.

5. (Original) A capsule endoscope apparatus according to Claim 1, wherein the illuminating device comprises an electroluminescence.

6. (Previously Presented) A capsule endoscope apparatus according to Claim 1, wherein the at least two different illuminating conditions are a light-emitting amount or light-emitting time and a signal gain of the image pick-up device is proportional to the light-emitting amount or light-emitting time.

7. (Currently Amended) A capsule endoscope apparatus comprising:
an illuminating device for irradiating illuminating light in a body cavity ;
a switching device which switches illuminating conditions of the illuminating light irradiated by the illuminating device, presets at least two different illuminating conditions and a switching order thereof in a state where the illuminating light has the same wavelength band, the at least two different illuminating conditions being a light-emitting amount or light-emitting time, and automatically switches the illuminating conditions from a first illuminating condition corresponding to a first image acquisition cycle to a second illuminating condition corresponding to a subsequent image acquisition cycle;
an image pick-up device for sequentially picking up, in a state where the illuminating light has the same wavelength band, images of a subject, which is irradiated with illuminating light under the illuminating conditions which are different according to the switching by the switching device;
a selecting device which extracts an image with a wide dynamic range from two or more pieces of image data obtained by the image pick-up device; [[and]]

a setting device which sets the light-emitting amount or light-emitting time;

and

a radio device which transmits by radio waves the image data obtained by the selecting device.

8. (Previously Presented) A capsule endoscope apparatus according to Claim 7, wherein a luminance distribution of the image data is used as a comparison standard for extracting the image with a wide dynamic range by the selecting device.

9. (Previously Presented) A capsule endoscope apparatus having an illuminating device, an image pick-up device for picking up an image of an illuminated portion, and a radio transmitting device, the capsule endoscope apparatus comprising:

the illuminating device comprising a switching device which switches one of a light-emitting amount and a light-emitting time;

a selecting device which extracts an image with a wide dynamic range from the two or more pieces of image data obtained by the image pick-up device upon sequentially switching one of the light-emitting amount and light-emitting time; and

a radio device which transmits by radio waves the image data obtained by the selecting device;

wherein a luminance distribution of the image data is used as a comparison standard for extracting the image with a wide dynamic range by the selecting device and the selecting device selects the image data with a widest luminance distribution of the image data.

10. (Previously Presented) A capsule endoscope apparatus according to Claim 7, wherein an amount of data after compressing the image data is used as a comparison standard for extracting the image with a wide dynamic range by the selecting device.

11. (Previously Presented) A capsule endoscope apparatus having an illuminating device, an image pick-up device for picking up an image of an illuminated portion, and a radio transmitting device, the capsule endoscope apparatus comprising:

the illuminating device comprising a switching device which switches one of a light-emitting amount and a light-emitting time;

a selecting device which extracts an image with a wide dynamic range from the two or more pieces of image data obtained by the image pick-up device upon sequentially switching one of the light-emitting amount and light-emitting time; and

a radio device which transmits by radio waves the image data obtained by the selecting device;

wherein an amount of data after compressing the image data is used as a comparison standard for extracting the image with a wide dynamic range by the selecting device and the selecting device selects the image having a largest amount of compressed image data.

12. (Currently Amended) A capsule endoscope apparatus comprising:

an illuminating device for irradiating illuminating light in a body cavity;

a switching device which switches illuminating conditions of the illuminating light irradiated by the illuminating device, presets at least two different illuminating conditions and a switching order thereof in a state where the illuminating light has the same wavelength band, the at least two different illuminating conditions being a light-emitting amount or light-emitting time, and automatically switches the illuminating conditions from a first illuminating condition corresponding to a first image acquisition cycle to a second illuminating condition corresponding to a subsequent image acquisition cycle;

an image pick-up device for sequentially picking up, in a state where the illuminating light has the same wavelength band, images of a subject, which is irradiated with illuminating light under the illuminating conditions which are different according to the switching by the switching device;

a setting device which sets the light-emitting amount or light-emitting time;

a radio device which transmits by radio waves the image data obtained by the image pick-up device;

a selecting device which extracts an image with a wide dynamic range from two or more pieces of transmission image data transmitted by the radio device; and

a recording device which records the transmitted image data selected by the selecting device.

13. (Previously Presented) A capsule endoscope apparatus according to Claim 12, wherein a luminance distribution of the transmitted image data is used as a comparison standard for extracting the image with the wide dynamic range by the selecting device.

14. (Previously Presented) A capsule endoscope system having an illuminating device, an image pick-up device for picking up an image of an illuminated portion, and a radio transmitting device, the capsule endoscope system comprising:

the illuminating device comprising a switching device which switches one of a light-emitting amount and light-emitting time;

a selecting device which transmits two or more pieces of image data obtained by the image pick-up device by the radio transmitting device upon sequentially switching one of the light-emitting amount and light-emitting time, and extracts the image with a wide dynamic range from the two or more images transmitted by the radio transmitting device; and

a recording device which records the transmitted image data selected by the selecting device;

wherein a luminance distribution of the transmitted image data is used as a comparison standard for extracting the image with the wide dynamic range by the selecting device and the selecting device selects the transmitted image data with a largest luminance distribution of the transmitted image data.

15. (Previously Presented) A capsule endoscope apparatus according to Claim 12, wherein an amount of data after compressing the transmitted image data is used as a comparison standard for extracting the image with the wide dynamic range by the selecting device.

16. (Previously Presented) A capsule endoscope system having an illuminating device, an image pick-up device for picking up an image of an illuminated portion, and a radio transmitting device, the capsule endoscope system comprising:

the illuminating device comprising a switching device which switches one of a light-emitting amount and light-emitting time;

a selecting device which transmits two or more pieces of image data obtained by the image pick-up device by the radio transmitting device upon sequentially switching one of the light-emitting amount and light-emitting time, and extracts the image with a wide dynamic range from the two or more images transmitted by the radio transmitting device; and

a recording device which records the transmitted image data selected by the selecting device;

wherein an amount of data after compressing the transmitted image data is used as a comparison standard for extracting the image with the wide dynamic range by the

selecting device and the selecting device selects the image having a largest amount of the compressed and transmitted image data.

17. (Currently Amended) A capsule endoscope apparatus comprising:
- an illuminating device for irradiating illuminating light in a body cavity;
 - a switching device which switches illuminating conditions of the illuminating light irradiated by the illuminating device, presets at least two different illuminating conditions and a switching order thereof in a state where the illuminating light has the same wavelength band, the at least two different illuminating conditions being a light-emitting amount or light-emitting time, and automatically switches the illuminating conditions from a first illuminating condition corresponding to a first image acquisition cycle to a second illuminating condition corresponding to a subsequent image acquisition cycle;
 - an image pick-up device for sequentially picking up, in a state where the illuminating light has the same wavelength band, images of a subject, which is irradiated with illuminating light under the illuminating conditions which are different according to the switching by the switching device;
 - a setting device which sets the light-emitting amount or light-emitting time;
 - a radio device which transmits by radio waves image data obtained by the image pick-up device;
 - an image processing device which generates one piece of combined image with an enlarged dynamic range from two or more pieces of transmission image data transmitted by the radio device;
 - a memory device which stores the combined image; and
 - a display device which displays the combined image.

18. (Currently Amended) A capsule endoscope apparatus comprising:
an illuminating device for irradiating illuminating light in a body cavity;
a switching device which switches illuminating conditions of the illuminating light irradiated by the illuminating device, presets at least two different illuminating conditions and a switching order thereof in a state where the illuminating light has the same wavelength band, the at least two different illuminating conditions being a light-emitting amount or light-emitting time, and automatically switches the illuminating conditions from a first illuminating condition corresponding to a first image acquisition cycle to a second illuminating condition corresponding to a subsequent image acquisition cycle;
an image pick-up device for sequentially picking up, in a state where the illuminating light has the same wavelength band, images of a subject, which is irradiated with illuminating lights under the illuminating conditions which are different according to the switching by the switching device;
a setting device which sets the light-emitting amount or light-emitting time;
an image processing device which generates one piece of combined image with an enlarged dynamic range from two or more pieces of image data obtained by the image pick-up device; and
a radio device which transmits by radio waves the combined image.

19. (Currently Amended) A capsule endoscope apparatus comprising:
an illuminating device using a light emitting element for irradiating illuminating light in a body cavity;
a switching device which switches illuminating conditions of the illuminating light irradiated by the illuminating device, presets at least two different illuminating

conditions and a switching order thereof in a state where the illuminating light has the same wavelength band, the at least two different illuminating conditions being a light-emitting amount or light-emitting time, and automatically switches the illuminating conditions from a first illuminating condition corresponding to a first image acquisition cycle to a second illuminating condition corresponding to a subsequent image acquisition cycle;

an image pick-up device for sequentially picking up, in a state where the illuminating light has the same wavelength band, images of a subject, which is irradiated with illuminating lights under the illuminating conditions which are different according to the switching by the switching device; [[and]]

a setting device which sets the light-emitting amount or light-emitting time;
and

a radio device which transmits by radio waves the image data obtained by the image pick-up device.

20. (Previously Presented) A capsule endoscope apparatus according to Claim 19, wherein the light emitting element comprises a plurality of light-emitting elements at different arranging positions, and the switching device selects the light-emitting element which emits light from the plurality of light emitting elements and changes the property of light distribution for the illuminating light.

21-22. (Canceled)

23. (Previously Presented) A capsule endoscope apparatus according to claim 1, wherein the two different illuminating conditions and the switching order thereof preset by the switching device are set to be changeable by a radio signal.

24. (Previously Presented) A capsule endoscope apparatus according to claim 7, wherein the two different illuminating conditions and the switching order thereof preset by the switching device are set to be changeable by a radio signal.

25. (Previously Presented) A capsule endoscope apparatus according to claim 12, wherein the two different illuminating conditions and the switching order thereof preset by the switching device are set to be changeable by a radio signal.

26. (Previously Presented) A capsule endoscope apparatus according to claim 17, wherein the two different illuminating conditions and the switching order thereof preset by the switching device are set to be changeable by a radio signal.

27. (Previously Presented) A capsule endoscope apparatus according to claim 18, wherein the two different illuminating conditions and the switching order thereof preset by the switching device are set to be changeable by a radio signal.

28. (Previously Presented) A capsule endoscope apparatus according to claim 19, wherein the two different illuminating conditions and the switching order thereof preset by the switching device are set to be changeable by a radio signal.